

What is claimed is:

- 1 1. A method comprising:  
2 importing environment information of a target database system into a test system,  
3 the environment information comprising random sample statistics of the target database  
4 system;  
5 storing the random sample statistics in a storage location; and  
6 using the random sample statistics in performing query plan analysis for a given  
7 query in the test system.
- 1 2. The method of claim 1, wherein importing the random sample statistics comprises  
2 importing random sample statistics from a selected segment of the target database  
3 system.
- 1 3. The method of claim 2, wherein the target database system comprises plural  
2 access modules, wherein importing the random sample statistics comprises importing the  
3 random sample statistics associated with less than all of the access modules.
- 1 4. The method of claim 3, wherein importing the random sample statistics comprises  
2 importing the random sample statistics associated with a randomly selected one or  
3 randomly selected ones of the access modules.
- 1 5. The method of claim 2, wherein importing the random sample statistics comprises  
2 importing at least some of the following information: database name, base table name,  
3 number of rows in the base table, number of indexes for the base table, minimum row  
4 length in the base table, maximum row length in the base table, secondary index name,  
5 number of rows in a secondary index table, and average row size of the secondary index  
6 table.

1 6. The method of claim 1, wherein importing the environment information  
2 comprises importing the environment information of a target database system having  
3 plural access modules that manage concurrent access of plural portions of data stored in  
4 the target database system.

1 7. The method of claim 6, wherein importing the environment information further  
2 comprises importing information pertaining to a configuration of the target database  
3 system.

1 8. The method of claim 6, wherein importing the environment information further  
2 comprises importing cost-related information of the target database system.

1 9. The method of claim 7, wherein importing the cost-related information comprises  
2 importing information comprising at least some of the following: number of nodes in the  
3 target database system, number of CPUs per node, number of access modules per node,  
4 an amount of memory allocated per access module, disk access speed, and network  
5 access speed.

1 10. The method of claim 1, further comprising emulating an environment of the target  
2 database system using the random sample statistics, wherein performing the query plan  
3 analysis comprises performing the query plan analysis in the emulated environment.

1 11. The method of claim 10, wherein emulating the environment comprises emulating  
2 the environment at one of plural emulation levels, the plural emulation levels comprising  
3 a system level and a user session level.

1 12. The method of claim 10, further comprising generating a full set of statistics from  
2 the random sample statistics.

1 13. The method of claim 12, further comprising invoking an optimizer to use the full  
2 set of statistics to perform the query plan analysis.

1 14. The method of claim 1, further comprising using an SQL DIAGNOSTIC  
2 statement to identify random sample statistics to capture.

1 15. The method of claim 14, further comprising using another SQL DIAGNOSTIC  
2 statement to set random sample statistics in the storage location.

1 16. A test system comprising:  
2 an interface to receive environment information associated with a target database  
3 system, the environment information comprising at least one of the following: sample  
4 statistics collected from a segment of the target database system, and cost-related  
5 information pertaining to a configuration of the target database system;  
6 a storage system to store the environment information; and  
7 an optimizer adapted to determine a query plan in response to a given query in an  
8 environment based on the environment information.

1 17. The database system of claim 16, wherein the target database system comprises  
2 plural access modules to manage respective portions of data stored in the target database  
3 system, and wherein the sample statistics comprise sample statistics collected from less  
4 than all the access modules in the target database system.

1 18. The test system of claim 17, wherein the sample statistics comprise sample  
2 statistics collected from randomly selected one or more of the access modules.

1 19. The test system of claim 17, wherein the sample statistics comprise at least some  
2 of the following information: database name, base table name, number of rows in the  
3 base table, number of indexes for the base table, minimum row length in the base table,  
4 maximum row length in the base table, secondary index name, number of rows in a  
5 secondary index table, and average row size of the secondary index table.

20. The test system of claim 17, wherein the cost-related information comprises at least some of the following information: number of nodes in the target database system, number of CPUs per node, number of access modules per node, an amount of memory allocated per access module, disk access speed, and network access speed.

21. The test system of claim 16, the storage subsystem to store a system table containing the sample statistics.

22. The test system of claim 21, wherein the storage subsystem further comprises a cache and a global configuration file, the test system further comprising a controller adapted to load the sample statistics from the system table to one of the cache and global configuration file.

23. An article comprising at least one storage medium containing instructions that when executed cause a system to:  
 extract random sample statistics from one or more tables of the target database system; and  
 store the random sample statistics in a predetermined location for importing to a test system to enable emulation of an environment of the database system.

24. The article of claim 23, wherein the instruction when executed cause the system to present a graphical user interface having plural input elements activable by a user to perform the export and import tasks.

25. The article of claim 24, wherein the instructions when executed cause the system to issue a first SQL DIAGNOSTIC statement to the target database to extract random sample statistics from a segment of the target database system.

26. The article of claim 25, wherein the instructions when executed cause the system to issue a second SQL DIAGNOSTIC statement to set the exported random sample statistics in a storage location of a test system.

